W/A #7

ENTERED

PCT10

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/069,427

DATE: 08/13/2002

TIME: 15:46:13

Input Set : A:\BB1395 USPCT Corrected Seq.txt

Output Set: N:\CRF3\08132002\J069427.raw

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   3 <110> APPLICANT: Famodu, Omolayo O.
   4        Kinney, Anthony J.
   7 <120> TITLE OF INVENTION: Genes Encoding Sterol Delta-15 Reductase in Plants
   9 <130> FILE REFERENCE: BB1395 PCT
  11 <140> CURRENT APPLICATION NUMBER: 10/069,427
C--> 12 <141> CURRENT FILING DATE: 2002-07-16
  14 <150> PRIOR APPLICATION NUMBER: 60/156,820
  15 <151> PRIOR FILING DATE: 1999-09-30
  17 <160> NUMBER OF SEQ ID NOS: 10
  19 <170> SOFTWARE: Microsoft Office 95
  21 <210> SEQ ID NO: 1
  22 <211> LENGTH: 427
  23 <212> TYPE: DNA
  24 <213> ORGANISM: Glycine max
  26 <220> FEATURE:
  27 <221> NAME/KEY: unsure
  28 <222> LOCATION: (360)
  29 <223> OTHER INFORMATION: n=a,c,g or t
  31 <400> SEQUENCE: 1
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  33 aactccgttc ctttgcttgt ggggttcttc acttacttgg ccgttgctgg atccattctc 120
  34 cctggaaaac ttgttcctgg cgttgcacta ctcgatggaa ctcgtctaca ctattgctgc 180
  35 aatggtctgc tctcgcttct tctgttggtt gcacttctcg ggatcggtgc caagatgggt 240
  36 tttgtgtctc ccactgccat atcaaacaga ggacttgagc tgctgtccac aacttttgcc 300
W--> 37 ttcagttttc ttgtaacccт gatattgcat ttttccgggt gcaagtcaca aagtaaaggn 360
  38 tcatcactaa agcctcatct cagtgggaac ctgatacacg attggtggtt tgggaataca 420
  39 actaaaa                                                          427
  42 <210> SEQ ID NO: 2
  43 <211> LENGTH: 126
  44 <212> TYPE: PRT
  45 <213> ORGANISM: Glycine max
  47 <400> SEQUENCE: 2
  48 Leu Gln Ala Leu Thr Pro Ser Trp Asn Ser Val Pro Leu Leu Val Gly
  49  1               5                  10                  15
  51 Phe Phe Thr Tyr Leu Ala Val Ala Gly Ser Ile Leu Pro Gly Lys Leu
  52                20                  25                  30
  54 Val Pro Gly Val Ala Leu Leu Asp Gly Thr Arg Leu His Tyr Cys Cys
  55           35                  40                  45
  57 Asn Gly Leu Leu Ser Leu Leu Leu Val Ala Leu Leu Gly Ile Gly
  58        50                  55                  60
  60 Ala Lys Met Gly Phe Val Ser Pro Thr Ala Ile Ser Asn Arg Gly Leu
  61 65                  70                  75                  80
  63 Glu Leu Leu Ser Thr Thr Phe Ala Phe Ser Phe Leu Val Thr Leu Ile
```

```
       RAW SEQUENCE LISTING              DATE: 08/13/2002
       PATENT APPLICATION:  US/10/069,427    TIME: 15:46:13

       Input Set : A:\BB1395 USPCT Corrected Seq.txt
       Output Set: N:\CRF3\08132002\J069427.raw
```

```
64                 85              90              95
66 Leu His Phe Ser Gly Cys Lys Ser Gln Ser Lys Gly Ser Ser Leu Lys
67             100             105             110
69 Pro His Leu Ser Gly Asn Leu Ile His Asp Trp Trp Phe Gly
70         115             120             125
73 <210> SEQ ID NO: 3
74 <211> LENGTH: 1631
75 <212> TYPE: DNA
76 <213> ORGANISM: Glycine max
78 <400> SEQUENCE: 3
79 ccgcgttgga atttgcccat ctaaaacctc aatcttttac tgaaaagtct caactttgaa   60
80 ctcactcgaa gtgatgatgg agtcacacgt ggatctaggt tttctccttc aagctctcac  120
81 tccatcttgg aactccgttc ctttgcttgt ggggttcttc acttacttgg ccgttgctgg  180
82 atccattctc cctggaaaac ttgttcctgg cgttgcacta ctcgatggaa ctcgtctaca  240
83 ctattgctgc aatggtctgc tctcgcttct tctgttggtt gcacttctcg ggatcggtgc  300
84 caagatgggt tttgtgtctc ccactgccat atcagacaga ggacttgagc tgctgtccac  360
85 aactttgcc ttcagttttc ttgtaaccct gatattgcat ttttccggtt gcaagtcaca  420
86 aagtaaaggt tcatcactaa agcctcatct cagtggaaac ctgatacacg attggtggtt  480
87 tggtatacaa ctaaatccac agttcatggg tatcgacctc aaattttct ttgttagagc  540
88 tggaatgatg ggatggctac ttatcaattt atctattctt atgaagagca ttcaagatgg  600
89 tactttgagc cagtcaatga ttctctacca gctattctgt gcactataca tcctggacta  660
90 ttttgtacat gaagagtaca tgacatccac ctgggacata attgcagaga gactgggctt  720
91 catgttggtc tttggagatt tagtgtggat tcctttctct ttcagcatac agggatggtg  780
92 gctcttgatg aacagtgtgg agttaacacc agctgccatt gtagctaatt gctttgtgtt  840
93 cctgattgga tacatggtat ttcgaggagc aaacaagcaa aagcatgtgt tcaaaaagaa  900
94 tccaaaggct cctatctggg gtaagcctcc aaaagtcatt ggtggaaagc tacttgcttc  960
95 tggttattgg ggtattgcta gacactgtaa ttacctaggg gatttgatgc ttgctctctc 1020
96 ctttagctta ccatgtggga taagttcacc aattccatac ttctatccaa tttatcttct 1080
97 tattctgtta atctggagag agagaaggga tgaagctcgt tgcgccgaga gtatagaga  1140
98 gatatgggcc gagtatcgta aacttgttcc atggagaata ttgccttacg tttattagga 1200
99 tgaaaaaaaa aagggcttca ccatgaattc ttcatcttgc cgatgttatt aagcacttcg 1260
100 atgtaaattg gttcttgttc ttgtggtttc aatcttggat cttttcttat tgagccatgt 1320
101 agctgcagga gagtgtttcg agggatttat cttaccatct atatttgtgt atcattatgc 1380
102 tgcagcctgc aggccttcat ttttcaatgg ccaactcttt ttgacttgtt ctatttgttt 1440
103 ttagatgaga atttcatggt caaagctcct aggcttaaaa aaacagtgtc atgttctatg 1500
104 ggaagtgcag gaagcaattc ggggactgca ggaagcaatt gcctttacat tgatatgctc 1560
105 aatggtactt taggcccttt aatgttcttg cttttcattt gtgagttatt attggcccca 1620
106 tttcatttgc a                                                      1631
109 <210> SEQ ID NO: 4
110 <211> LENGTH: 374
111 <212> TYPE: PRT
112 <213> ORGANISM: Glycine max
114 <400> SEQUENCE: 4
115 Met Met Glu Ser His Val Asp Leu Gly Phe Leu Leu Gln Ala Leu Thr
116  1               5               10              15
118 Pro Ser Trp Asn Ser Val Pro Leu Leu Val Gly Phe Phe Thr Tyr Leu
119             20              25              30
121 Ala Val Ala Gly Ser Ile Leu Pro Gly Lys Leu Val Pro Gly Val Ala
122         35              40              45
```

RAW SEQUENCE LISTING   DATE: 08/13/2002
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Input Set : A:\BB1395 USPCT Corrected Seq.txt
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124 Leu Leu Asp Gly Thr Arg Leu His Tyr Cys Cys Asn Gly Leu Leu Ser
125      50              55              60
127 Leu Leu Leu Leu Val Ala Leu Leu Gly Ile Gly Ala Lys Met Gly Phe
128  65              70              75                      80
130 Val Ser Pro Thr Ala Ile Ser Asp Arg Gly Leu Glu Leu Leu Ser Thr
131              85              90                      95
133 Thr Phe Ala Phe Ser Phe Leu Val Thr Leu Ile Leu His Phe Ser Gly
134              100             105                     110
136 Cys Lys Ser Gln Ser Lys Gly Ser Ser Leu Lys Pro His Leu Ser Gly
137          115             120             125
139 Asn Leu Ile His Asp Trp Trp Phe Gly Ile Gln Leu Asn Pro Gln Phe
140      130             135             140
142 Met Gly Ile Asp Leu Lys Phe Phe Phe Val Arg Ala Gly Met Met Gly
143 145             150             155                     160
145 Trp Leu Leu Ile Asn Leu Ser Ile Leu Met Lys Ser Ile Gln Asp Gly
146              165             170                     175
148 Thr Leu Ser Gln Ser Met Ile Leu Tyr Gln Leu Phe Cys Ala Leu Tyr
149              180             185                     190
151 Ile Leu Asp Tyr Phe Val His Glu Glu Tyr Met Thr Ser Thr Trp Asp
152          195             200             205
154 Ile Ile Ala Glu Arg Leu Gly Phe Met Leu Val Phe Gly Asp Leu Val
155      210             215             220
157 Trp Ile Pro Phe Ser Phe Ser Ile Gln Gly Trp Trp Leu Leu Met Asn
158 225             230             235                     240
160 Ser Val Glu Leu Thr Pro Ala Ala Ile Val Ala Asn Cys Phe Val Phe
161              245             250                     255
163 Leu Ile Gly Tyr Met Val Phe Arg Gly Ala Asn Lys Gln Lys His Val
164              260             265             270
166 Phe Lys Lys Asn Pro Lys Ala Pro Ile Trp Gly Lys Pro Pro Lys Val
167          275             280             285
169 Ile Gly Gly Lys Leu Leu Ala Ser Gly Tyr Trp Gly Ile Ala Arg His
170      290             295             300
172 Cys Asn Tyr Leu Gly Asp Leu Met Leu Ala Leu Ser Phe Ser Leu Pro
173 305             310             315                     320
175 Cys Gly Ile Ser Ser Pro Ile Pro Tyr Phe Tyr Pro Ile Tyr Leu Leu
176              325             330             335
178 Ile Leu Leu Ile Trp Arg Glu Arg Arg Asp Glu Ala Arg Cys Ala Glu
179              340             345             350
181 Lys Tyr Arg Glu Ile Trp Ala Glu Tyr Arg Lys Leu Val Pro Trp Arg
182      355             360             365
184 Ile Leu Pro Tyr Val Tyr
185      370
188 <210> SEQ ID NO: 5
189 <211> LENGTH: 667
190 <212> TYPE: DNA
191 <213> ORGANISM: Zea mays
193 <400> SEQUENCE: 5
194 ccacgcgtcc ggaagaacaa agtagagctg tcccttttgt ctggtctagc taacttatgc   60
195 atctttctta ttggctacct agtgttccga ggagctaaca agcaaaaaca tgtgttcaag  120
```

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196 aaggaccccca aagctcctat atggggaaaa cctcccaaag ttgtcggggg aaagctacta 180
197 gcatctggtt actggggcat cgcaaggcac tgcaattatc tcggagacct gctgctagca 240
198 ctttcgttca gcttgccctg tggagtgagt tccgtggtcc catacttcta ccccacgtac 300
199 ctgctcattc tactggtctt gagggaaagg cgcgatgagg cgaggtgctc gcagaagtac 360
200 agggagatct gggcagagta ctgcaagctc gtgccgtgga ggatcctgcc ttatgtgtac 420
201 tgaagagacg gtagaaacca aggcagctca tggccctggg ccagctgtaa accttatttt 480
202 gtttgccctt aaccagttgg tgaatgttga tgtagcactc ggtaaactgt gaccgtgcaa 540
203 acttttgtta ttgttggtcc atacatgttt ggaatcgtga atcagaccgc ctcacttggt 600
204 ggcaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 660
205 aaaaaag                                                           667
208 <210> SEQ ID NO: 6
209 <211> LENGTH: 140
210 <212> TYPE: PRT
211 <213> ORGANISM: Zea mays
213 <400> SEQUENCE: 6
214 Pro Arg Val Arg Lys Asn Lys Val Glu Leu Ser Leu Leu Ser Gly Leu
215  1               5                  10                  15
217 Ala Asn Leu Cys Ile Phe Leu Ile Gly Tyr Leu Val Phe Arg Gly Ala
218             20                  25                  30
220 Asn Lys Gln Lys His Val Phe Lys Lys Asp Pro Lys Ala Pro Ile Trp
221         35                  40                  45
223 Gly Lys Pro Pro Lys Val Val Gly Gly Lys Leu Leu Ala Ser Gly Tyr
224     50                  55                  60
226 Trp Gly Ile Ala Arg His Cys Asn Tyr Leu Gly Asp Leu Leu Leu Ala
227 65                  70                  75                  80
229 Leu Ser Phe Ser Leu Pro Cys Gly Val Ser Ser Val Val Pro Tyr Phe
230                 85                  90                  95
232 Tyr Pro Thr Tyr Leu Leu Ile Leu Leu Val Leu Arg Glu Arg Arg Asp
233             100                 105                 110
235 Glu Ala Arg Cys Ser Gln Lys Tyr Arg Glu Ile Trp Ala Glu Tyr Cys
236         115                 120                 125
238 Lys Leu Val Pro Trp Arg Ile Leu Pro Tyr Val Tyr
239     130                 135                 140
242 <210> SEQ ID NO: 7
243 <211> LENGTH: 1364
244 <212> TYPE: DNA
245 <213> ORGANISM: Glycine max
247 <400> SEQUENCE: 7
248 ttcggcacga gtaaaacctc aatcttttac tgaaaagtct caactttgaa ctcactcgaa   60
249 gtgatgatgg agtcacacgt ggatctaggt tttctccttc aagctctcac tccatcttgg  120
250 aactccgttc ctttgcttgt ggggttcttc acttacttgg ccgttgctgg atccattctc  180
251 cctggaaaac ttgttcctgg cgttgcacta ctcgatggaa ctcgtctaca ctattgctgc  240
252 aatggtctgc tctcgcttct tctgttggtt gcacttctcg ggatcggtgc caagatgggt  300
253 tttgtgtctc ccactgccat atcagacaga ggacttgagc tgctgtccac aacttttgcc  360
254 ttcagttttc ttgtaaccct gatattgcat ttttccggtt gcaagtcaca aagtaaaggt  420
255 tcatcactaa agcctcatct cagtggaaac ctgatacacg attggtggtt tggtatacaa  480
256 ctaaatccac agttcatggg tatcgacctc aaagctggaa tgatgggatg gctacttatc  540
257 aatttatcta ttcttatgaa gagcattcaa gatggtactt tgagccagtc aatgattctc  600
258 taccagctat tctgtgcact atacatcctg gactattttg tacatgaaga gtacatgaca  660
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RAW SEQUENCE LISTING   DATE: 08/13/2002
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Output Set: N:\CRF3\08132002\J069427.raw

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259 tccacctggg acataattgc agagagactg ggcttcatgt tggtctttgg agatttagtg  720
260 tggattcctt tctctttcag catacaggga tggtggctct tgatgaacag tgtggagtta  780
261 acaccagctg ccattgtagc taattgcttt gtgttcctga ttggatacat ggtatttcga  840
262 ggagcaaaca agcaaaagca tgtgttcaaa aagaatccaa aggctcctat ctggggtaag  900
263 cctccaaaag tcattggtgg aaagctactt gcttctggtt attggggtat tgctagacac  960
264 tgtaattacc tagggtattt gatgcttgct ctctccttta gcttaccatg tgggataagt 1020
265 tcaccaattc catacttcta tccaatttat cttcttattc tgttaatctg gagagagaga 1080
266 acggatgaag ctcgttgcgc cgagaagtat agagagatat gggccgagta tcgtaaactt 1140
267 gttccatgga gaatattgcc ttacgtttat taggatgaaa aaaaaaaggg cttcaccatg 1200
268 aattcttcat cttgccgatg ttattaagca cttcgatgta aattggttct tgttcttgtg 1260
269 gtttcaatct tggatctttt cttattgagc catgtagctg caggagagtg tttcgaggga 1320
270 tttatcttac catctatatt tgtgtaaaaa aaaaaaaaaa aaaa                    1364
273 <210> SEQ ID NO: 8
274 <211> LENGTH: 369
275 <212> TYPE: PRT
276 <213> ORGANISM: Glycine max
278 <400> SEQUENCE: 8
279 Met Met Glu Ser His Val Asp Leu Gly Phe Leu Leu Gln Ala Leu Thr
280  1               5                  10                  15
282 Pro Ser Trp Asn Ser Val Pro Leu Leu Val Gly Phe Phe Thr Tyr Leu
283             20                  25                  30
285 Ala Val Ala Gly Ser Ile Leu Pro Gly Lys Leu Val Pro Gly Val Ala
286             35                  40                  45
288 Leu Leu Asp Gly Thr Arg Leu His Tyr Cys Cys Asn Gly Leu Leu Ser
289      50                  55                  60
291 Leu Leu Leu Leu Val Ala Leu Leu Gly Ile Gly Ala Lys Met Gly Phe
292 65                  70                  75                  80
294 Val Ser Pro Thr Ala Ile Ser Asp Arg Gly Leu Glu Leu Leu Ser Thr
295                 85                  90                  95
297 Thr Phe Ala Phe Ser Phe Leu Val Thr Leu Ile Leu His Phe Ser Gly
298             100                 105                 110
300 Cys Lys Ser Gln Ser Lys Gly Ser Ser Leu Lys Pro His Leu Ser Gly
301             115                 120                 125
303 Asn Leu Ile His Asp Trp Trp Phe Gly Ile Gln Leu Asn Pro Gln Phe
304      130                 135                 140
306 Met Gly Ile Asp Leu Lys Ala Gly Met Met Gly Trp Leu Leu Ile Asn
307 145                 150                 155                 160
309 Leu Ser Ile Leu Met Lys Ser Ile Gln Asp Gly Thr Leu Ser Gln Ser
310             165                 170                 175
312 Met Ile Leu Tyr Gln Leu Phe Cys Ala Leu Tyr Ile Leu Asp Tyr Phe
313             180                 185                 190
315 Val His Glu Glu Tyr Met Thr Ser Thr Trp Asp Ile Ile Ala Glu Arg
316             195                 200                 205
318 Leu Gly Phe Met Leu Val Phe Gly Asp Leu Val Trp Ile Pro Phe Ser
319      210                 215                 220
321 Phe Ser Ile Gln Gly Trp Trp Leu Leu Met Asn Ser Val Glu Leu Thr
322 225                 230                 235                 240
324 Pro Ala Ala Ile Val Ala Asn Cys Phe Val Phe Leu Ile Gly Tyr Met
325             245                 250                 255
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RAW SEQUENCE LISTING ERROR SUMMARY   DATE: 08/13/2002
PATENT APPLICATION: US/10/069,427   TIME: 15:46:14

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<u>Please Note:</u>
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220>
to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 360

VERIFICATION SUMMARY   DATE: 08/13/2002
PATENT APPLICATION: US/10/069,427   TIME: 15:46:14

Input Set : **A:\BB1395 USPCT Corrected Seq.txt**
Output Set: **N:\CRF3\08132002\J069427.raw**

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:37 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:300